

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015168**Date Inspected:** 25-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Jim Cunningham and Bernie Docena			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Orthotropic Box Girder		

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG L4E/L5E side plate 'C' (7400mm to 9855mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continue perform CJP groove (splice) welding root fill pass on the splice butt joint. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042A-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. At the end of the shift, welding of the fill passes on the splice butt joint was not completed and should continue tomorrow.

QA randomly observed ABF/JV qualified welder Mitch Sittinger perform CJP groove (splice) back welding cover pass on Orthotropic Box Girder (OBG) L4E/L5E plate 'D' outside. The welder was observed welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040A-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was

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## WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

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ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT) which was performed and accepted by ABF QC Jim Cunningham. The splice joint was preheated to greater than 150 degree Fahrenheit prior welding and the vicinity was properly protected from wind and other deleterious environmental conditions. During welding, ABF Quality Control (QC) Jim Cunningham was noted monitoring the welding parameters of the welder. At the end of the shift, the cover pass welding of the splice butt joint back weld was completed. After the welding completion, QA noted ABF QC Jim Cunningham performing VT on the cover pass of the back weld. The QC was noted marking the welded joint for underfill that needs to be fixed.

### Summary of Conversations:

1. At OBG L3E/L4E bottom plate 'D' outside, this QA performed preliminary VT on the flush ground weld cover reinforcement of the splice butt joint back weld. During the VT it was noted that there were underfill and some undercut that need to be fixed. QA informed QC Bonifacio Daquinag about the defects and concurred after seeing them.

2. At OBG L4E/L5E bottom plate 'D' outside, ABF QC Jim Cunningham informed QA that welding of the weld cover reinforcement was completed. ABF QC also informed QA that the welder will weld some of the weld underfill before they flush grind the reinforcement.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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